

**This Page Is Inserted by IFW Operations
and is not a part of the Official Record**

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

- **BLACK BORDERS**
- **TEXT CUT OFF AT TOP, BOTTOM OR SIDES**
- **FADED TEXT**
- **ILLEGIBLE TEXT**
- **SKEWED/SLANTED IMAGES**
- **COLORED PHOTOS**
- **BLACK OR VERY BLACK AND WHITE DARK PHOTOS**
- **GRAY SCALE DOCUMENTS**

IMAGES ARE BEST AVAILABLE COPY.

**As rescanning documents *will not* correct images,
please do not report the images to the
Image Problem Mailbox.**

WEST Search History

DATE: Wednesday, September 10, 2003

Set Name Query

side by side

Hit Count Set Name

result set

DB=USPT,PGPB,JPAB,EPAB,DWPI; PLUR=YES; OP=OR

| | | | |
|----|---|-----|----|
| L4 | L1 same (size or micron or diameter) and (bone) adj3 (graft or prosthesis or implant or fixative) | 42 | L4 |
| L3 | L2 and matrix same (polylactide or polyglycolide or polyanhydride or polyorthester or polyurethane or polyvinyl or pvp) | 13 | L3 |
| L2 | L1 and (bone) adj3 (graft or prosthesis or implant or fixative) | 80 | L2 |
| L1 | (bioactive or bioceramic) adj5 glass same (particulate or particle or microparticle) | 196 | L1 |

END OF SEARCH HISTORY

=> d his full

(FILE 'HOME' ENTERED AT 11:04:14 ON 20 NOV 2002)

FILE 'CAPLUS, MEDLINE' ENTERED AT 11:04:30 ON 20 NOV 2002

```
L1      81592 SEA ABB=ON  PLU=ON  (IMPLANTS OR BIACTIVE COMPOSITE OR BONE
        FIXATION OR BONE FIXTURES)
L2      2067 SEA ABB=ON  PLU=ON  L1 AND (BONE IMPLANT)
L3      0 SEA ABB=ON  PLU=ON  L2 AND (RESORBABLE POLYMER (3A) MATRIX)
L4      0 SEA ABB=ON  PLU=ON  L2 AND POLYMER (3A) MATRIX (P) (FIBRILLAR
        OR ORIENTED)
L5      2 SEA ABB=ON  PLU=ON  L2 AND POLYMER (P) (FIBRILLAR OR ORIENTED)

L6      97 SEA ABB=ON  PLU=ON  L2 AND (BIOCERAMIC OR BIOGLASS)
L7      1 SEA ABB=ON  PLU=ON  L6 AND POLYMER (P) (FIBRILLAR OR ORIENTED)

        D L7 IBIB KWIC
L8      0 SEA ABB=ON  PLU=ON  L6 AND POLYMER MATRIX
L9      0 SEA ABB=ON  PLU=ON  L6 AND (POLYMER MATRIX)
L10     0 SEA ABB=ON  PLU=ON  L6 AND (FIBER OR FIBROUS) (P) POLYMER
L11     8 SEA ABB=ON  PLU=ON  L6 AND POLYMER
L12     8 SEA ABB=ON  PLU=ON  L11
L13     8 DUP REM L11 (0 DUPLICATES REMOVED)
        D L13 IBIB KWIC 1-
```

L7 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1997:286407 CAPLUS

DOCUMENT NUMBER: 126:268549

TITLE: Osteosynthetic material, composited implant material, and process for preparing the same

INVENTOR(S): Shikinami, Yasuo; Okuno, Masaki

PATENT ASSIGNEE(S): Takiron Co., Ltd., Japan; Shikinami, Yasuo; Okuno, Masaki

SOURCE: PCT Int. Appl., 104 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|------|----------|-----------------|----------|
| WO 9710010 | A1 | 19970320 | WO 1996-JP2642 | 19960913 |
| W: AU, CA, CN, KR, NO, US | | | | |
| RW: AT, CH, DE, DK, ES, FI, FR, GB, IT, NL, SE | | | | |
| JP 09135892 | A2 | 19970527 | JP 1996-216874 | 19960731 |
| JP 3215046 | B2 | 20011002 | | |
| JP 09234242 | A2 | 19970909 | JP 1996-216875 | 19960731 |
| JP 3215047 | B2 | 20011002 | | |
| JP 09234243 | A2 | 19970909 | JP 1996-216876 | 19960731 |
| JP 3239127 | B2 | 20011217 | | |
| JP 11226111 | A2 | 19990824 | JP 1998-321413 | 19960731 |
| JP 2002325832 | A2 | 20021112 | JP 2002-129488 | 19960731 |
| CA 2205231 | AA | 19970320 | CA 1996-2205231 | 19960913 |
| AU 9669453 | A1 | 19970401 | AU 1996-69453 | 19960913 |
| AU 715915 | B2 | 20000210 | | |
| EP 795336 | A1 | 19970917 | EP 1996-930407 | 19960913 |
| R: AT, CH, DE, DK, ES, FI, FR, GB, IT, LI, NL, SE | | | | |
| CN 1168105 | A | 19971217 | CN 1996-191435 | 19960913 |
| NO 9702191 | A | 19970714 | NO 1997-2191 | 19970513 |
| <u>US 5981619</u> | A | 19991109 | US 1997-849422 | 19970514 |

PRIORITY APPLN. INFO.:

| | | |
|----------------|----|----------|
| JP 1995-262353 | A | 19950914 |
| JP 1995-351503 | A | 19951225 |
| JP 1995-351504 | A | 19951225 |
| JP 1996-216874 | A | 19960731 |
| JP 1996-216875 | A | 19960731 |
| JP 1996-216876 | A | 19960731 |
| JP 1998-321413 | A3 | 19960731 |
| WO 1996-JP2642 | W | 19960913 |

AB The inventions relate to a high-bending-strength and high-d. osteosynthetic material and a high-strength implant material, comprising either a biodegradable and bioabsorbable cryst. thermoplastic **polymer** material or a composite material comprising the above **polymer** material and a **bioceramic** powder having a particle diam. of 0.2 to 50 .mu.m dispersed therein, wherein crystals of the **polymer** material are pressure-oriented essentially parallel to a plurality of ref. axes rather than uniaxially; and a process for prepg. the above materials by pressure orientation, comprising prepg. either a biodegradable and bioabsorbable cryst. thermoplastic **polymer** material or a mixt. comprising a dispersion of a biodegradable and bioabsorbable cryst. thermoplastic **polymer** material and a dispersion of a **bioceramic** powder, melt-forming the mixt. into a preform, and pressure filling the preform into a cavity of a closed mold to prep. an **oriented** form. This process enables the prepn. of ideal biomaterials, i.e., an osteosynthetic material and an implant material comprising an **oriented** form with crystals **oriented** parallel to a plurality of ref. axes and

possessing low anisotropy, high denseness, and high strength, which have suitable hydrolyzability, can retain satisfactory strength for a period of time necessary for bone coaptation and, after the recovery of the fractured portion, is degraded and adsorbed at such a rate as will not cause any inflammation, thus eliminating the need to conduct reoperation.

ST osteosynthetic composited implant material; thermoplastic
bioceramic prosthetic implant

IT **Bone**

Bone

(**implant**; osteosynthetic material, composited implant material, and process for prepg. the same)

IT Dental materials and appliances

Prosthetic materials and Prosthetics

(**implants**; osteosynthetic material, composited implant material, and process for prepg. the same)

=>

> d l13 ibib kwic 1-
YOU HAVE REQUESTED DATA FROM 8 ANSWERS - CONTINUE? Y/(N):y

L13 ANSWER 1 OF 8 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 2001:323651 CAPLUS
DOCUMENT NUMBER: 135:157450
TITLE: Achievements in ceramic biomaterials
AUTHOR(S): Veresov, A. G.; Putlyaev, V. I.; Tret'yakov, Yu. D.
CORPORATE SOURCE: Fak. Nauk o Mater., MGU im. M. V. Lomonosova, Moscow, 119899, Russia
SOURCE: Rossiiskii Khimicheskii Zhurnal (2000), 44(6), 32-45
CODEN: RKZHEZ; ISSN: 1024-6215
PUBLISHER: Rossiiskoe Khimicheskoe Obshchestvo im. D. I. Mendeleeva
DOCUMENT TYPE: Journal; General Review
LANGUAGE: Russian

AB A review with 96 refs. providing a brief description of the properties and
physiol. of bone, calcium phosphate biomaterials based on CaO-P2O5-H2O
systems, producing hydroxyapatite powders, **bioceramics** based on
"pure" hydroxyapatite, dense hydroxyapatite ceramics, porous
hydroxyapatite ceramics, ceramic composites, glass ceramic materials based
on hydroxyapatite, hydroxyapatite coatings for metals, hydroxyapatite/
polymer composites, calcium phosphate bone cements, and prospects
for new developments in the field of **bone implants**.
ST review **bone implant bioceramic** material
IT **Bone**
(**implant**; achievements in ceramic biomaterials)

L13 ANSWER 2 OF 8 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 2000:319273 CAPLUS
DOCUMENT NUMBER: 133:256717
TITLE: Collagen-**polymer**-hydroxyapatite composite
materials
AUTHOR(S): Andronesco, Ecaterina; Momete, Daniela Cristina;
Vasilescu, D. S.
CORPORATE SOURCE: Department of Industrial Chemistry, University
"Politehnica" of Bucharest, Bucharest, Rom.
SOURCE: Silicates Industriels (1999), 64(11-12), 187-190
CODEN: SIINAT; ISSN: 0037-5225
PUBLISHER: Silicates Industriels
DOCUMENT TYPE: Journal
LANGUAGE: English
REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

TI Collagen-**polymer**-hydroxyapatite composite materials
AB The design of ceramic-**polymer** composite offers the possibility
of combining the advantageous properties of **bioceramics** like
hydroxyapatite with the molding capacity of biocompatible polymeric
systems. To improve the synthetic **bone implant**
material, hydroxyapatite coated with collagen, acrylamide crosslinked with
bis-methylene acrylamide was produced. A new, rigid composite material
was obtained by mixing all the above components in soln. and curing it.
The usefulness of this new material was also evaluated.
ST collagen **polymer** hydroxyapatite composite
IT Prosthetic materials and Prosthetics
(ceramic, **implants**; collagen-**polymer**-hydroxyapatite
composite materials)
IT Compressive strength
(collagen-**polymer**-hydroxyapatite composite materials)
IT Collagens, biological studies
RL: PEP (Physical, engineering or chemical process); PRP (Properties); THU
(Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)

(collagen-**polymer**-hydroxyapatite composite materials)
 IT Prosthetic materials and Prosthetics
 (composites; collagen-**polymer**-hydroxyapatite composite materials)
 IT Ceramics
 (prosthetic **implants**; collagen-**polymer**-hydroxyapatite composite materials)
 IT 10124-37-5, Calcium nitrate 25034-58-6, Acrylamide-methylenebisacrylamide copolymer
 RL: PEP (Physical, engineering or chemical process); POF (Polymer in formulation); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
 (collagen-**polymer**-hydroxyapatite composite materials)
 IT 1306-06-5, Hydroxyapatite
 RL: PEP (Physical, engineering or chemical process); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
 (collagen-**polymer**-hydroxyapatite composite materials)
 IT 7783-28-0, Diammonium phosphate
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (collagen-**polymer**-hydroxyapatite composite materials)

L13 ANSWER 3 OF 8 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 2000:193594 CAPLUS

DOCUMENT NUMBER: 132:241729

TITLE: Bioactive coatings on **polymers**

AUTHOR(S): Meyer, M.; Schubert, H.

CORPORATE SOURCE: Institut fur Nichtmetallische Werkstoffe, Berlin, Germany

SOURCE: Werkstoffwoche '98, Band VIII: Symposium 10, Polymere; Symposium 14, Simulation Polymere, Munich, Sept., 1998 (1999), Meeting Date 1998, 177-180. Editor(s): Michaeli, Walter. Wiley-VCH Verlag GmbH: Weinheim, Germany.

CODEN: 68SRAZ

DOCUMENT TYPE: Conference; General Review

LANGUAGE: German

REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

TI Bioactive coatings on **polymers**

AB A review with 2 refs., describing medical application of **bioceramics**, Ca phosphate and oxide ceramics (Al, Zr) as **bone implants**, silicone **implants** for smooth tissues, and coating of silicone with bioactive hydroxylapatite or tricalcium phosphate by radio frequency glow discharge.

ST review **polymer** bioactive coating silicone implant

IT Coating materials

(bioactive coatings on **polymers**)

IT **Polymers**, biological studies

Polysiloxanes, biological studies

RL: PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(bioactive coatings on **polymers**)

IT Ceramics

(biocompatible; bioactive coatings on **polymers**)

IT Prosthetic materials and Prosthetics

(**implants**; bioactive coatings on **polymers**)

L13 ANSWER 4 OF 8 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1998:706058 CAPLUS

DOCUMENT NUMBER: 129:321234

TITLE: Biodegradable implant material comprising bioactive ceramic

INVENTOR(S): Boyan, Barbara D.; Niederauer, Gabriele; Kieswetter,

Kristine; Leatherbury, Neil C.; Greenspan, David C.
 PATENT ASSIGNEE(S): USA
 SOURCE: PCT Int. Appl., 44 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English *not filed on/after 11/29/00.*
 FAMILY ACC. NUM. COUNT: 2
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|--|-----------------|------------|
| WO 9846164 | A1 | 19981022 | WO 1998-US7446 | 19980413 |
| W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG | | | | |
| US 5977204 | A | 19991102 | US 1997-838921 | 19970411 |
| AU 9869702 | A1 | 19981111 | AU 1998-69702 | 19980413 |
| EP 1018978 | A1 | 20000719 | EP 1998-915544 | 19980413 |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI | | | | |
| JP 2002508677 | T2 | 20020319 | JP 1998-544187 | 19980413 |
| PRIORITY APPLN. INFO.: | | | US 1997-838921 | A 19970411 |
| | | | WO 1998-US7446 | W 19980413 |
| REFERENCE COUNT: | 5 | THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT | | |
| AB | Biodegradable polymeric therapeutic implant materials incorporating bioactive ceramics such as Bioglass are provided. These implants provide increased mech. properties and pH control, enabling the use of these materials to design porous and nonporous therapeutic implants used as cell scaffolds for healing of tissue defects or fixation devices, having desired degrdn. times, mech. properties, elasticity and biocompatibility. | | | |
| ST | bone implant polymer ceramic biodegradable; | | | |
| IT | Prosthetic implant ceramic biodegradable | | | |
| IT | Polymers, biological studies | | | |
| IT | RL: DEV (Device component use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (biodegradable implant material comprising bioactive ceramic) | | | |
| IT | Prosthetic materials and Prosthetics | | | |
| IT | (ceramic, implants ; biodegradable implant material comprising bioactive ceramic) | | | |
| IT | Bone | | | |
| IT | (implant; biodegradable implant material comprising bioactive ceramic) | | | |
| IT | Prosthetic materials and Prosthetics | | | |
| IT | (implants; biodegradable implant material comprising bioactive ceramic) | | | |
| IT | Ceramics | | | |
| IT | (prosthetic implants ; biodegradable implant material comprising bioactive ceramic) | | | |
| IT | 34346-01-5, D,L-Lactic acid-glycolic acid copolymer | | | |
| IT | RL: DEV (Device component use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (Bioglass composites; biodegradable implant material comprising bioactive ceramic) | | | |

DOCUMENT NUMBER: 130:301647
TITLE: Processing of **bioceramic implants**
via fused deposition process
AUTHOR(S): Bose, Susmita; Avila, Marisol; Bandyopadhyay, Amit
CORPORATE SOURCE: School of Mechanical and Materials Engineering,
Washington State University, Pullman, WA, 99164-2920,
USA
SOURCE: Solid Freeform Fabrication Symposium Proceedings
(1998) 629-636
CODEN: SFFPF4; ISSN: 1053-2153
PUBLISHER: University of Texas at Austin
DOCUMENT TYPE: Journal
LANGUAGE: English
REFERENCE COUNT: 14

THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

- TI Processing of **bioceramic implants** via fused deposition
process
- AB Porous ceramic structures have long been a subject of investigation as
bone substitute. Most of these porous structures are typically made by
techniques that result randomly arranged pores with a wide variety of pore
sizes. In recent years, SFF methods are being used for the fabrication of
porous **bioceramic implants**. Porous ceramic structures
were fabricated using indirect route where a polymeric mold is first
created via fused deposition process. The mold was then infiltrated with
ceramic slurry, dried and then subjected to a binder burn out and
sintering cycle. In this paper, processing of 3D honeycomb porous alumina
ceramic structures and some initial mech. properties for **bone**
implants will be discussed.
- ST processing **bioceramic** implant fused deposition; ceramic implant
fused deposition processing
- IT Bone
(artificial; processing of **bioceramic implants** via
fused deposition process)
- IT Prosthetic materials and Prosthetics
(ceramic, **implants**; processing of **bioceramic**
implants via fused deposition process)
- IT Shear
Sintering
Viscosity
(processing of **bioceramic implants** via fused
deposition process)
- IT **Polymers**, biological studies
RL: DEV (Device component use); THU (Therapeutic use); BIOL (Biological
study); USES (Uses)
(processing of **bioceramic implants** via fused
deposition process)
- IT Ceramics
(prosthetic **implants**; processing of **bioceramic**
implants via fused deposition process)
- IT 1309-48-4, Magnesium oxide (MgO), biological studies 1344-28-1, Alumina,
biological studies
RL: DEV (Device component use); PEP (Physical, engineering or chemical
process); THU (Therapeutic use); BIOL (Biological study); PROC (Process);
USES (Uses)
(processing of **bioceramic implants** via fused
deposition process)

L13 ANSWER 6 OF 8 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1997:286407 CAPLUS
DOCUMENT NUMBER: 126:268549
TITLE: Osteosynthetic material, composited implant material,
and process for preparing the same
INVENTOR(S): Shikinami, Yasuo; Okuno, Masaki

PATENT ASSIGNEE(S): Takiron Co., Ltd., Japan; Shikinami, Yasuo; Okuno, Masaki
 SOURCE: PCT Int. Appl., 104 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|------|-----------------|-----------------|-------------|
| WO 9710010 | A1 | 19970320 | WO 1996-JP2642 | 19960913 |
| W: AU, CA, CN, KR, NO, US | | | | |
| RW: AT, CH, DE, DK, ES, FI, FR, GB, IT, NL, SE | | | | |
| JP 09135892 | A2 | 19970527 | JP 1996-216874 | 19960731 |
| JP 3215046 | B2 | 20011002 | | |
| JP 09234242 | A2 | 19970909 | JP 1996-216875 | 19960731 |
| JP 3215047 | B2 | 20011002 | | |
| JP 09234243 | A2 | 19970909 | JP 1996-216876 | 19960731 |
| JP 3239127 | B2 | 20011217 | | |
| JP 11226111 | A2 | 19990824 | JP 1998-321413 | 19960731 |
| JP 2002325832 | A2 | 20021112 | JP 2002-129488 | 19960731 |
| CA 2205231 | AA | 19970320 | CA 1996-2205231 | 19960913 |
| AU 9669453 | A1 | 19970401 | AU 1996-69453 | 19960913 |
| AU 715915 | B2 | 20000210 | | |
| EP 795336 | A1 | 19970917 | EP 1996-930407 | 19960913 |
| R: AT, CH, DE, DK, ES, FI, FR, GB, IT, LI, NL, SE | | | | |
| CN 1168105 | A | 19971217 | CN 1996-191435 | 19960913 |
| NO 9702191 | A | 19970714 | NO 1997-2191 | 19970513 |
| <u>US 5981619</u> | A | <u>19991109</u> | US 1997-849422 | 19970514 |
| PRIORITY APPLN. INFO.: | | | JP 1995-262353 | A 19950914 |
| | | | JP 1995-351503 | A 19951225 |
| | | | JP 1995-351504 | A 19951225 |
| | | | JP 1996-216874 | A 19960731 |
| | | | JP 1996-216875 | A 19960731 |
| | | | JP 1996-216876 | A 19960731 |
| | | | JP 1998-321413 | A3 19960731 |
| | | | WO 1996-JP2642 | W 19960913 |

AB The inventions relate to a high-bending-strength and high-d. osteosynthetic material and a high-strength implant material, comprising either a biodegradable and bioabsorbable cryst. thermoplastic polymer material or a composite material comprising the above polymer material and a bioceramic powder having a particle diam. of 0.2 to 50 .mu.m dispersed therein, wherein crystals of the polymer material are pressure-oriented essentially parallel to a plurality of ref. axes rather than uniaxially; and a process for prepg. the above materials by pressure orientation, comprising prepg. either a biodegradable and bioabsorbable cryst. thermoplastic polymer material or a mixt. comprising a dispersion of a biodegradable and bioabsorbable cryst. thermoplastic polymer material and a dispersion of a bioceramic powder, melt-forming the mixt. into a preform, and pressure filling the preform into a cavity of a closed mold to prep. an oriented form. This process enables the prepn. of ideal biomaterials, i.e., an osteosynthetic material and an implant material comprising an oriented form with crystals oriented parallel to a plurality of ref. axes and possessing low anisotropy, high denseness, and high strength, which have suitable hydrolyzability, can retain satisfactory strength for a period of time necessary for bone coaptation and, after the recovery of the fractured portion, is degraded and adsorbed at such a rate as will not cause any inflammation, thus eliminating the need to conduct reoperation.

ST osteosynthetic composited implant material; thermoplastic bioceramic prosthetic implant

IT **Bone**
Bone
 (**implant**; osteosynthetic material, composited implant material, and process for prepg. the same)

IT Dental materials and appliances
 Prosthetic materials and Prosthetics
 (**implants**; osteosynthetic material, composited implant material, and process for prepg. the same)

IT 1306-01-0, Tetracalcium phosphate 1306-06-5, Hydroxyapatite 7757-93-9, Dicalcium phosphate 7758-87-4, Tricalcium phosphate 13767-12-9, Octacalcium phosphate 26100-51-6, Lactic acid **polymer** 34346-01-5, Lactic acid-glycolic acid copolymer
 RL: DEV (Device component use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (osteosynthetic material, composited implant material, and process for prepg. the same)

L13 ANSWER 7 OF 8 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1999:516451 CAPLUS

DOCUMENT NUMBER: 131:262576

TITLE: A **polymer-bioceramic** composite for filling bone defects

AUTHOR(S): Rozhnova, R. A.; Galatenko, N. A.; Khrinov'skii, V. O.; Gripenko, V. P.; Lebedev, S. V.

CORPORATE SOURCE: Inst. Khim. Vysokomol. Spoluk, Kiev, Ukraine

SOURCE: Dopovidi Natsional'noi Akademii Nauk Ukraini (1999:7:12), 146-149

CODEN: DNAUFL; ISSN: 1025-6415

PUBLISHER: Prezidiya Natsional'noi Akademii Nauk Ukraini

DOCUMENT TYPE: Journal

LANGUAGE: Ukrainian

TI A **polymer-bioceramic** composite for filling bone defects

AB **Polymer** compns. based on polyurethane-contg. hydroxyapatite and the immunomodulator levamisole are developed. Physicochemical properties of the compns. obtained indicate the possibility of their use as **implants** for bone tissues.

ST **bone implant polymer** composite
bioceramic

IT Ceramics
 (biocompatible; **polymer-bioceramic** composite for filling bone defects)

IT Polyurethanes, biological studies

RL: PEP (Physical, engineering or chemical process); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
 (composites; **polymer-bioceramic** composite for filling bone defects)

IT **Bone**
 (**implant**; **polymer-bioceramic** composite for filling bone defects)

IT Ceramic composites
 (**polymer-bioceramic** composite for filling bone defects)

IT 1306-06-5D, Hydroxyapatite, composites

RL: PEP (Physical, engineering or chemical process); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
 (**polymer-bioceramic** composite for filling bone defects)

L13 ANSWER 8 OF 8 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1995:618183 CAPLUS

DOCUMENT NUMBER: 123:17977

TITLE: **implants** containing recombinant human bone

morphogenetic protein (rhBMP) for promoting
 osteogenesis
 INVENTOR(S): Takaoka, Kunio; Myamoto, Nobuhira
 PATENT ASSIGNEE(S): Yamanouchi Pharma Co Ltd, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 12 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|----|--|------|----------|-----------------|----------|
| | JP 07088174 | A2 | 19950404 | JP 1993-264230 | 19930928 |
| TI | implants containing recombinant human bone morphogenetic protein (rhBMP) for promoting osteogenesis | | | | |
| AB | Implants for promoting osteogenesis are prepd. contg. at least (1) atelocollagen, polymers or copolymers of lactic acid and/or glycolic acid, or block copolymer of polyethylene glycol and the polymer or copolymer, and (2) recombinant human bone morphogenetic protein (rhBMP). | | | | |
| IT | Glass fibers, biological studies RL: DEV (Device component use); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (CPSA; implants contg. recombinant human bone none morphogenetic protein (rhBMP) for promoting osteogenesis) | | | | |
| IT | Bone (formation; implants contg. recombinant human bone none morphogenetic protein (rhBMP) for promoting osteogenesis) | | | | |
| IT | Glass ceramics (implants contg. recombinant human bone none morphogenetic protein (rhBMP) for promoting osteogenesis) | | | | |
| IT | Collagens, biological studies RL: DEV (Device component use); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (atelo-, implants contg. recombinant human bone none morphogenetic protein (rhBMP) for promoting osteogenesis) | | | | |
| IT | Glass, oxide RL: DEV (Device component use); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (beads, porous, implants contg. recombinant human bone none morphogenetic protein (rhBMP) for promoting osteogenesis) | | | | |
| IT | Animal growth regulators RL: DEV (Device component use); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (bone morphogenetic protein 2, implants contg. recombinant human bone none morphogenetic protein (rhBMP) for promoting osteogenesis) | | | | |
| IT | Animal growth regulators RL: DEV (Device component use); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (bone morphogenetic protein 2B, implants contg. recombinant human bone none morphogenetic protein (rhBMP) for promoting osteogenesis) | | | | |
| IT | Animal growth regulators RL: DEV (Device component use); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (bone morphogenetic protein 3, implants contg. recombinant human bone none morphogenetic protein (rhBMP) for promoting osteogenesis) | | | | |
| IT | Animal growth regulators RL: DEV (Device component use); THU (Therapeutic use); BIOL (Biological study); USES (Uses) | | | | |

(bone morphogenetic protein 5, **implants** contg. recombinant human bone none morphogenetic protein (rhBMP) for promoting osteogenesis)

IT Animal growth regulators
 RL: DEV (Device component use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (bone morphogenetic protein 8, **implants** contg. recombinant human bone none morphogenetic protein (rhBMP) for promoting osteogenesis)

IT Animal growth regulators
 RL: DEV (Device component use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (bone morphogenetic proteins, **implants** contg. recombinant human bone none morphogenetic protein (rhBMP) for promoting osteogenesis)

IT **Bone**
 (**implant**, **implants** contg. recombinant human bone none morphogenetic protein (rhBMP) for promoting osteogenesis)

IT Prosthetic materials and Prosthetics
 (**implants**, **implants** contg. recombinant human bone none morphogenetic protein (rhBMP) for promoting osteogenesis)

IT 7631-86-9, Silica, biological studies
 RL: DEV (Device component use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (Carbonated or nitrated; **implants** contg. recombinant human bone none morphogenetic protein (rhBMP) for promoting osteogenesis)

IT 50-21-5D, Lactic acid, **polymers** or copolymers 79-14-1, Glycolic acid, biological studies 107-21-1D, Ethylene glycol, **polymers** or copolymers 1306-06-5, Hydroxyapatite 1314-23-4, Zirconia, biological studies 1317-82-4, Sapphire 1344-28-1, Alumina, biological studies 7440-44-0, Carbon, biological studies 7758-87-4, Tricalcium phosphate 11114-92-4 12597-68-1, Stainless steel, biological studies 13463-67-7, Titania, biological studies 80294-22-0, Ceravital 117563-96-9 125199-10-2, **Bioceramics**
 RL: DEV (Device component use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (**implants** contg. recombinant human bone none morphogenetic protein (rhBMP) for promoting osteogenesis)

[Generate Collection](#)[Print](#)**Search Results - Record(s) 1 through 20 of 20 returned.**

-
- ☐ 1. [20020169452](#). 14 May 01. 14 Nov 02. Minimally traumatic surgical device for tissue treatment. [Tormala](#), Pertti, et al. 606/72; A61B017/84.
-
- ☐ 2. [20020058966](#). 02 Jul 97. 16 May 02. SURGICAL FASTNER FOR TISSUE TREATMENT. [TORMALA](#), PERTTI, et al. 606/213; 606/72 A61B017/56.
-
- ☐ 3. [20010004693](#). 03 Apr 98. 21 Jun 01. ANATOMICAL FIXATION IMPLANT. BURKHEAD, W., et al. 606/73; 606/72 A61B017/58.
-
- ☐ 4. [6406498](#). 04 Sep 98; 18 Jun 02. Bioactive, bioabsorbable surgical composite material. [Tormala](#), Pertti, et al. 623/23.75; 623/11.11. A61F002/36.
-
- ☐ 5. [6398814](#). 14 Sep 98; 04 Jun 02. Bioabsorbable two-dimensional multi-layer composite device and a method of manufacturing same. Paasimaa; Senja, et al. 623/23.51; 623/23.52. A61F002/36.
-
- ☐ 6. [6369215](#). 19 Aug 99; 09 Apr 02. Hydroxyalkylated starch ester and preparation and use thereof. Peltonen; Soili, et al. 536/108; 536/102 536/107 536/110 536/124. C08B031/02 C08B031/16 C08B037/00 C08B031/00 C07H001/00.
-
- ☐ 7. [6350284](#). 14 Sep 98; 26 Feb 02. Bioabsorbable, layered composite material for guided bone tissue regeneration. [Tormala](#), Pertti, et al. 623/17.19; 623/16.11. A61F002/44.
-
- ☐ 8. [6296641](#). 03 Apr 98; 02 Oct 01. Anatomical fixation implant. Burkhead; W., et al. 606/61; 606/213. A61B017/56.
-
- ☐ 9. [6277393](#). 10 Dec 99; 21 Aug 01. Systemic and/or local (topical) application of tetracycline and/or tetracycline derivative(s) for treating, suppressing and preventing of cerebrovascular diseases, traumas and damages of nervous system. Yrjanheikki; Juha, et al. 424/426; 424/408 424/489. A61F002/00 A01N025/34 A61K009/14.
-
- ☐ 10. [6228111](#). 07 Aug 98; 08 May 01. Biodegradable implant manufactured of polymer-based material and a method for manufacturing the same. [Tormala](#) ; Pertti, et al. 623/1.38; 424/426 424/428 604/890.1 623/23.75. A61F002/06.
-
- ☐ 11. [6221075](#). 06 Mar 98; 24 Apr 01. Bioabsorbable, deformable fixation plate. [Tormala](#); Pertti, et al. 606/77; 606/69. A61B017/80.
-
- ☐ 12. [6171338](#). 06 Sep 94; 09 Jan 01. Biodegradable surgical implants and devices. Talja; Martti, et al. 623/1.22; A61F002/02.
-
- ☐ 13. [6113640](#). 11 Jun 97; 05 Sep 00. Reconstructive bioabsorbable joint prosthesis. [Tormala](#) ; Pertti, et al. 623/18.11; 606/151 623/21.15 623/23.75. A61F002/30.
-
- ☐ 14. [6015410](#). 23 Dec 97; 18 Jan 00. Bioabsorbable surgical implants for endoscopic soft tissue suspension procedure. [Tormala](#) ; Pertti, et al. 606/73; A61B017/00.

- ☐ 15. 6007580. 11 Mar 98; 28 Dec 99. Joint prosthesis. Lehto; Matti, et al. 623/21.11; 623/18.11. A61F002/42.
-
- ☐ 16. 6001100. 19 Aug 97; 14 Dec 99. Bone block fixation implant. Sherman; Mark, et al. 606/72; 606/73 606/74 606/75 606/77 623/13.14. A61B017/56.
-
- ☐ 17. 5984966. 02 Mar 98; 16 Nov 99. Bioabsorbable bone block fixation implant. Kiema; Pia, et al. 623/13.14; A61F002/08.
-
- ☐ 18. 5792400. 04 Oct 95; 11 Aug 98. Method of manufacturing biodegradable surgical implants and devices. Talja; Martti, et al. 264/103; 264/147 264/210.2 264/288.4. D02G003/00.
-
- ☐ 19. 5084051. 24 Aug 88; 28 Jan 92. Layered surgical biocomposite material. Tormala; Pertti, et al. 606/77; 428/688 606/76. A61F002/00.
-
- ☐ 20. 4863472. 05 Jul 88; 05 Sep 89. Bone graft implant. Tormala; Pertti, et al. 623/23.58; 433/201.1. A61F002/28 A61C008/00.
-

[Generate Collection](#)
[Print](#)

| Term | Documents |
|--|-----------|
| BIORESORBABLE DWPI,EPAB,JPAB,USPT,PGPB. | 1094 |
| BIORESORBABLES DWPI,EPAB,JPAB,USPT,PGPB. | 6 |
| BIODEGRADABLE DWPI,EPAB,JPAB,USPT,PGPB. | 39390 |
| BIODEGRADABLES DWPI,EPAB,JPAB,USPT,PGPB. | 46 |
| R DWPI,EPAB,JPAB,USPT,PGPB. | 4566694 |
| RS DWPI,EPAB,JPAB,USPT,PGPB. | 62131 |
| BIOACTIVE DWPI,EPAB,JPAB,USPT,PGPB. | 12403 |
| BIOACTIVES DWPI,EPAB,JPAB,USPT,PGPB. | 74 |
| POLYMERS DWPI,EPAB,JPAB,USPT,PGPB. | 387111 |
| POLYMER DWPI,EPAB,JPAB,USPT,PGPB. | 1273255 |
| CERAMIC DWPI,EPAB,JPAB,USPT,PGPB. | 406355 |
| (L1 AND (BIORESORBABLE OR BIODEGRADABLE R BIOACTIVE) SAME POLYMERS AND (CERAMIC OR GLASS)).USPT,PGPB,JPAB,EPAB,DWPI. | 20 |

[There are more results than shown above. Click here to view the entire set.](#)

[Previous Page](#)
[Next Page](#)